

CONTROL SYSTEM FOR ADJUSTABLE PEDAL ASSEMBLY

ABSTRACT OF THE DISCLOSURE

An adjustable control pedal for a motor vehicle includes an upper arm and a lower arm carrying a pedal. The lower arm is selectively moveable relative to the upper arm to adjust the position of the pedal relative to the upper arm. A drive screw is secured to the upper arm. A drive nut threadably engages the drive screw and is adapted to move axially along the drive screw upon rotation of the drive screw. A motor is operatively connected to the drive screw to selectively rotate the drive screw. The lower arm is operatively connected to the drive nut for fore-aft movement of the lower arm relative to the upper arm upon axial movement of the drive nut along the drive screw. A control system includes a sensor located at the drive screw and adapted to directly sense rotation of the drive screw and a controller in communication with the sensor to receive electrical signals from the sensor. The controller determines a position of the nut along the screw based on signals from the sensor and automatically stops the motor when the nut reaches a predetermined position along the screw such as a desired end of travel for the nut along the screw. The controller also automatically stops the motor when signals from the sensor indicate that the screw is not rotating. The controller is adapted to automatically move the lower arm in a forward direction relative to the upper arm to a predetermined position, such as a full forward position, when predetermined conditions are met which indicate the driver may egress the vehicle. The predetermined conditions can be the ignition switch turning off and/or the driver's door opening. The control assembly preferably includes a lock-out switch in communication with the controller to prevent movement of the lower arm relative to the upper arm when engaged so that the lower arm is not accidentally moved. The controller is preferably adapted to automatically stop the motor and prevent further pedal adjustment when sensors indicate that a predetermined fore/aft offset between an accelerator pedal and a brake pedal, i.e. step over, is not maintained.

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